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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,777	01/24/2002	Lev Bromberg	01064	4587

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09/05/2003

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EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/056,777	Applicant(s) BROMBERG, LEV	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 21-26, 28-34, and 37-41 rejected under 35 U.S.C. 102(b) as being anticipated by Shields et al. (U.S. 5,476,540).

Shields et al. disclose ink jet system comprising first ink or gelling composition comprising 0.1-10% gel-forming species, aqueous liquid vehicle, and dye and second ink comprising gel-initiating species, aqueous liquid vehicle, and dye, wherein the gelling composition has pH effective to cause gelling of the image. In another embodiment, the ink is printed onto printing medium that is pre-treated with gel-forming species. There is also disclosed a method of generating an image comprising incorporating the ink and gelling composition into ink jet printer, jetting the ink and gelling composition onto substrate, and generating an image. The ink is either printed before or after the gelling composition (col.2, lines 30-41 and 62-67, col.11-56, example 2 and example 4).

In light of the above, it is clear that Shields et al. anticipate the present claims.

3. Claims 1-7, 21-24, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sacripante et al. (U.S. 5,989,325).

Sacripante et al. disclose nonaqueous ink comprising liquid vehicle, colorant such as dye or pigment including carbon black, and 0.5-10% gelling component. There is also disclosed a method of generating an image comprising incorporating the ink into ink jet printer, jetting the ink onto substrate, and generating an image (col.6, lines 39-40, 49-50, and 60-61, col.7, lines 20-25, col.9, lines 9 and 40-42, and col.10, lines 37-41 and 53-54).

In light of the above, it is clear that Sacripante et al. anticipate the present claims.

4. Claims 1-4, 6-7, 19, 21-31, and 38-41 are rejected under 35 U.S.C. 102(a) as being anticipated by EP 1148104.

EP 1148104 discloses ink jet ink system comprising ink that comprises water, solvent, and colorant including water-insoluble dye and pigment such as carbon black and fixer fluid or gelling composition that comprises water, solvent, and gelling agent which is polyvinyl alcohol possessing molecular weight of 1000-250,000 or polyethyleneimine possessing molecular weight of 2000. It is disclosed that the gelling composition has pH effective to cause gelling of the image. There is also disclosed a method of generating an image comprising incorporating the ink and gelling composition into ink jet printer, jetting the ink and gelling composition onto substrate, and generating an image. The ink is either printed before or after the gelling composition. There is also disclosed a method of generating an image comprising incorporating the ink into ink jet printer and jetting the ink onto substrate which comprises coating of gelling

Art Unit: 1714

agent (page 2, lines 33-38 and 52-58, page 3, lines 1-5, 12-16, and 22-57, page 4, lines 9-10, page 5, lines 5-6, and scenarios 1-3).

In light of the above, it is clear that EP 1148104 anticipates the present claims.

5. Claims 1-3, 6-7, 11, 19, 21, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/37168.

WO 00/37168 discloses ink jet ink comprising aqueous liquid vehicle, colorant including pigment such as carbon black, and hydrophobically modified polyelectrolyte possessing molecular weight up to 100,000 wherein the polyelectrolyte is a hydrophilic homopolymer or copolymer comprising ionizable monomer. There is also disclosed a method of generating an image comprising incorporating the ink into ink jet printer, jetting the ink onto substrate, and generating an image (page 3, lines 5-11, page 5, lines 25-30, page 8, lines 23-24, and page 11, lines 9-14).

In light of the above, it is clear that WO 00/37168 anticipates the present claims.

6. Claims 1-3, 6-10, 12-19, 21-24, and 26-28 rejected under 35 U.S.C. 102(b) as being anticipated by Grezzo Page et al. (U.S. 5,708,095).

Grezzo Page et al. disclose ink jet ink comprising aqueous liquid vehicle, colorant including carbon black modified with carboxylic acid, and 0.1-30% graft copolymer which comprises macromonomer side chains obtained from styrene and ethoxytriethyleneglycol methacrylate and backbone obtained from (meth)acrylic acid and ethyl acrylate. The graft copolymer has molecular weight of 1000-100,000. It is further disclosed that the pigment binds

Art Unit: 1714

to the graft copolymer. There is also disclosed a method of generating an image comprising incorporating the ink into ink jet printer, jetting the ink onto substrate, and generating an image (col.2, line 54-col.5, line 21, col.6, line 35, col.6, line 61-col.7, line 3, and col.7, lines 7-15).

In light of the above, it is clear that Grezzo Page et al. anticipate the present claims.

7. Claims 1-7, 19-24, 26, 28, and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al. (U.S. 5,969,740).

Maeda et al. disclose ink jet ink comprising aqueous liquid vehicle, colorant including water-insoluble dye and pigment such as carbon black, and 0.005-10% thickening polymer possessing molecular weight of 1,000-1,000,000 wherein the polymer gels upon heating. There is also disclosed a method of generating an image comprising incorporating the ink into ink jet printer, jetting the ink onto substrate, and generating an image (col.3, lines 19-26, 35-45, and 49-56, col.6, lines 20-25 and 52-45, col.8, lines 24-28, and col.9, lines 28-29).

In light of the above, it is clear that Maeda et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1148104, WO 00/37168, Grezzo Page et al. (U.S. 5,708,095), or Maeda et al. (U.S. 5,969,740) any of which in view of Belmont et al. (U.S. 5,571,311).

The disclosures with respect to EP 1148104, WO 00/37168, Grezzo Page et al., and Maeda et al. in paragraphs 4, 5, 6, and 7, respectively, are incorporated here by reference.

The difference between EP 1148104, WO 00/37168, Grezzo Page et al., or Maeda et al. and the present invention is the requirement in the claims of specific type of pigment.

Each of EP 1148104, WO 00/37168, Grezzo Page et al., and Maeda et al. disclose the use of pigment, however, there is no disclosure in any of the references of modified pigment having attached at least one organic group.

Belmont et al. disclose the use of modified pigment having attached organic group such as carboxylic acid in ink jet inks. The motivation for using such pigment is that the pigment has increased water dispersability as compared to untreated pigment (col.5, lines 4-10 and 32 and col.6, lines 5-19).

In light of the motivation for using modified pigment disclosed by Belmont et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use

such modified pigment in the ink of EP 1148104, WO 00/37168, Grezzo Page et al., or Maeda et al., and thereby arrive at the claimed invention.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Varnell et al. (U.S. 6,123,760) disclose substrate coated with sizing composition comprising hydrophobically modified water-soluble polymer.

Ma et al. (U.S. 6,117,921) disclose ink jet ink comprising graft copolymer obtained from hydrophobic monomer and ionizable monomer.

Ma et al. (U.S. 6,022,908) disclose ink set comprising set of four inks that react with each other on the printing medium due to difference in pH, due to the opposite charge between dispersants contained in the inks, or due to precipitation of colorant.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

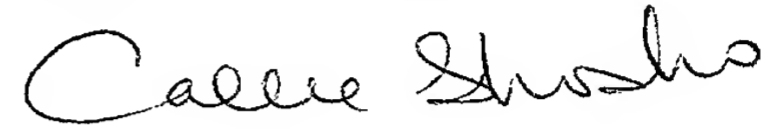
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Application Number: 10/056,777

Page 8

Art Unit: 1714

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS

8/29/03